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Good morning and thank you for the opportunity to talk to you here today about the future of commercial vehicle technology. And, most importantly, thank you for the confidence you place in Freightliner by choosing us to serve the needs of a segment in your overall large and diverse transportation and logistics network now for over 11 years.

The commercial vehicle business has never been more dynamic and more exciting than it is today. This month we enter the 107th month of the longest economic expansion in the nation's history, and, at the very center of that expansion, supporting North American economic growth, has been trucking. In fact – trucking has enabled this dramatic non-inflationary growth by adopting new technology and new truck equipment to reduce transportation and logistics costs as well as to support the globalization of our economy.

1999 was a record year for the trucking industry. The Class 8 heavy-duty industry sold 262,000 trucks in the U.S., and 180,000 medium-duty trucks.

Freightliner and its divisions -- (Freightliner Trucks, Sterling Trucks, American LaFrance, Freightliner Custom Chassis and Thomas Built Buses) -- built and delivered nearly 200,000 commercial vehicles. That's up over 60% from our last year's sales of 128,000 vehicles. Likewise, our total revenue was \$11.2 billion, up from \$7.5 billion in 1998.

Our Freightliner corporate market share continues to increase, now approaching 38% in U.S. Class 8 as Freightliner Trucks reaches a 32% share and Sterling stands at 5.4%. This marks a <u>3 percentage points increase</u> in share over last year at this time. In Class 6 & 7, Freightliner Corporation is a solid number 2, with combined group shares of over 23%.

Why do I tell you this? Because, not only is business great for us and the rest of the industry, but commercial vehicle technology contains a wealth of opportunity for the U.S. military. The opportunities are the result of decades of research and development efforts to produce longer lasting, more productive, more efficient and safer trucks.

Many of the challenges faced by commercial truckers are similar to what the military faces today. Personnel issues such as recruiting and retention, driver and technician training, along with integrating mobile communication, maximizing equipment utilization, reducing costs from all areas – these are just some of the challenges you have in common. It is our job as a truck manufacturer to deliver solutions to these problems and to deliver maximum benefit to our customer wherever trucks affect his operation.

And, trucks 10 years from today will be even better than those of the year 2000. Parenthetically, I can say that with great assurance because we're already developing them as we speak – and I can assure you – the vehicle you see from us in only five years will obsolete virtually everything on the road today in every category.

What I would like to do is review some of the issues of new truck development that we see impacting this next generation vehicle and then some of today's technology that we believe has real application to military trucks today.

- 1. Trucks will be more purpose-built as market forces change the dynamics of freight movement throughout the world.
 - Broader range of vehicles necessary to satisfy a modern freight system. Forces affecting that are:
 - globalization of supply chain
 - impact of e-business opens the world; changes the size of freight moved; increases the net number of trucks required.
 - Long haul freight will become more intermodal as well as trucks will have task specific configurations:
 - long haul, high horsepower sleeper configurations
 - regional and short haul to serve the e-business, regional markets.
- 2. Technology will drive vehicle development for the next generation trucks:
 - Information technology between truck and external world
 - Integration of components into a smart infrastructure of systems and a network of intelligent components
 - Communication between driver and truck and driver and external world

In truck development for the next generation of vehicles, the traditional engineer and engineering approach will be useless – will take electro-mechanical engineers to develop.

- 3. Trucks and their components will become more integrated and component (electronics) and truck technology will become more global.
 - U.S. type technology of electro-mechanical integration will lead

- Concentration / globalization of vehicle manufacturing will drive component development into the most efficient direction of solving a customer issue only once globally.
 - TufTrac
 - Coil spring suspension
 - Engines
 - Axles
 - Brakes
- 4. Major global players will begin to play larger roles in what were once considered smaller niche markets especially on the heavy duty end:
 - Military
 - Construction
 - Refuse
 - Fire and emergency

Why:

- Distribution impacts sales
- Leverage off of core developments
- Can do it once globally so the market is bigger
- 5. Technology will allow product development to occur at a much faster pace more products will be brought to market <u>faster</u> and more frequently; engines and enterprise systems including manufacturing will allow us as manufacturers to develop and support in our manufacturing environment for more customized vehicles and more flexibility in manufacturing.

Our intelligence will be dramatically improved by real smart systems.

- For instance, in designing our new COE (Argosy) we were able to analyze all
 applications from highway to heavy duty in its design phase knowing before we
 built the first vehicle what we would have to develop as optional heavy duty
 componentry to meet your HEMTT or HETT requirement if we chose to do so.
- 6. A sixth kind of catch-all

Major issues of design for next generation of vehicles

- Safety (vehicular and environmental)
- Ergonomics broader range of users
- Information / communication technology
- Service and diagnostics
- Styling

So – back from the future to today and what is Freightliner doing to meet the needs of today's commercial vehicle business?

In 1998, we introduced the Argosy Safety Concept Vehicle, which brings together in one operational vehicle, a safer, more productive, environmentally and infrastructure-friendly systems approach to the future.

The safety technology I am about to describe can all be adopted by the military, and all reflect the tremendous strides in improving truck safety over the past several years. They include:

- Low profile/wide track chassis for a 15% better resistance to rollover.
- Electronic braking systems with disc brakes shortening stopping distance to under 200 feet from 60 mph while providing improved lateral stability.
- Next generation radar collision warning (EVT-300) with "smart" cruise control to automatically hold a safe headway distance in traffic.
- A lane departure warning system to become the second set of eyes for a weary driver and alert him/her when about to leave the lane.

These technologies are more than a promise for the future – they are a reality – and they show that there can be a win-win scenario for all the interests -- manufacturers, operators, highway and bridge engineers and the public.

So what other new technologies does Freightliner have to offer? Logistics and changing distribution patterns demand different things from our customers. Meeting the multiple requirements of our growing customer base means more products. So, this month, Freightliner has started building a new model called the **Century Class S/T**. The S/T stands for Safety and Technology, and this truck delivers a multitude of standard and optional safety- and information-technology-related features to earn its name.

The **Century Class S/T** is configured with a specific mission and a specific customer type in mind: One seeking the most modern technology to achieve maximum safety and operational efficiency.

Let me take a moment to describe the Century S/T: It combines all the innovative content and features of the current Century Class product with a host of new standard technologies that increase performance, efficiency, comfort, safety and Information Age connectivity.

The Century Class was the first truck in North America to offer a driver's side airbag as an option. With the S/T, it is now a standard feature. The life of each and every person

driving a Freightliner truck is precious to us, and we want to do everything possible to safeguard that life.

Drivers of the S/T also are protected by one of the industry's most crashworthy cabs, one that is designed to exceed European ECE R-29 and the tough Swedish test along with new SAE standards we helped develop.

But what distinguishes the S/T more than its passive safety measures -- those that protect the driver in the event of a crash -- is its impressive list of active safety measures -- those that prevent an accident from happening in the first place.

Topping the list of new, active safety features on the Century Class S/T is the Eaton Fuller AutoShift 10-Speed transmission, standard equipment on the S/T. Yes, we consider AutoShift a safety feature.

AutoShift -- an automated manual transmission -- does not require conventional shifting of the transmission, so the driver can keep both hands on the wheel and eyes ahead. And since the clutch is only required for start-ups and stops, fatigue is reduced.

The Century Class S/T also includes Freightliner's SmartShift proprietary shifting device as standard equipment -- a steering-mounted shift control that interfaces with AutoShift, SmartShift allows hands-on-wheel shifting of AutoShift.

In incorporating the AutoShift transmission into the Century Class S/T, we also added a <u>compression brake</u>. The compression brake delivers its own sets of benefits -- better performance, higher operational safety, and longer brake life.

When Freightliner introduced the Century Class in 1995, we developed an electronics and information systems platform to accommodate fleets' communications, computing and electronics requirements well into the 21st Century. Now, with the Century Class S/T, we extend the technology with an inclusive package of features that further serve to integrate the truck into the fleet's IT network. All totaled, some 10 computers are standard equipment on the S/T.

Standard on the S/T is Freightliner's Driver Message Center. This easy-to-use device displays information in a two-line, 20-character display in front of the driver. Located front and center of the driver in the dash, the Driver Message Center connects the driver to valuable data about truck performance, like fuel mileage, temperatures, fluid levels and other vehicle information. The Driver Message Center also can link to Qualcomm's satellite messaging system to alert the driver of incoming messages. It displays diagnostic and fault codes on every system, including engines (starter lock-out, ServiceLink tool, Vorad display).

Also standard in the Century Class S/T is Freightliner's Data Logging Unit . The DLU, as we call it, records data from all over the truck, letting technicians quickly diagnose

problems and formulate solutions. The DLU is an electronic unit dedicated to recording information on the vehicle's operation to assist the service technician in diagnosing problems. This small box, located in the B-pillar behind the driver, continuously records information from the truck data link – it is a truck "flight" recorder, of sorts.

When a fault occurs, the DLU freezes the information and stores it for future retrieval. This way, the service technician doesn't have to sort through irrelevant information; he only retrieves data pertinent to the problem.

The DLU even tracks such events as fast decelerations and running with the parking brake on. All in all, the DLU is a powerful diagnostic tool that greatly speeds service, saving the vehicle owner time and money. Technicians can extract information from the DLU using Freightliner's ServiceLink software.

One of our newest products, which will be offered on all of our trucks, is the Truck Productivity Computer. The Truck PC is located in the truck's radio slot, and integrates a mobile computer as powerful as many desktop PCs with an AM/FM receiver, audio and computer CD player and global positioning system. Beyond that, it has multiple interfaces to wireless satellite, mobile radio and cellular network systems and peripheral devices – all ingeniously and compactly designed into the standard radio slot on the truck's dashboard.

The infrared serial connectors support devices such as external monitors, keyboards, magnetic card readers, bar code and flatbed scanners, printers, cellular telephones, digital cameras, hand-held or palmtop computers and game controllers.

Another recent new technology we introduced monitors drivers and coaches them with feedback to improve their safety and efficiency. Our Roll Advisor & Control rollover warning system uses antilock brake sensors to detect when trucks are in danger of rolling over in turns. Rollover is a leading cause of truck fatalities – frequently involving inexperienced drivers – and is often caused by excessive speed. Roll Advisor & Control issues a series of progressive warning signals and automatically reduces engine power and applies the engine brake if rollover is imminent. This feedback also allows drivers to learn and to modify their behavior, that is, to drive more slowly in turns.

Likewise, the EatonVorad collision avoidance system – currently used by a number of our customers with tremendous success – alerts drivers when they are following other vehicles too closely. It also provides additional warning in reduced visibility situations by alerting them to vehicles and other objects in their path but out of visual range.

Another safety system we have commercialized is the Lane Guidance departure warning system, a joint development by Freightliner, Odetics ITS, and DaimlerChrysler Research. When a distracted or inattentive driver begins to veer out of his lane, this system immediately emits a distinctive "rumble strip" warning sound.

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It uses a digital camera to continuously gather visual data, which is processed using proprietary DaimlerChrysler technology. At the sound, the driver intuitively steers away from the side from which the sound originates. It works at night and in most adverse weather conditions.

We have research underway on fuel cell technology, wireless satellite communications, and as we work with the military on 21st Century Trucking Initiatives, the potential for advancing safety, communications technology and productivity will be endless. We know that the 21st Century military must be faster, smarter, and more flexible. We view these technologies as a way to achieve that.

Thank you.